

CLAIMSWhat is claimed is:

1. A method of increasing yield in a plant, comprising expressing aspartate carboxylase in said plant.
2. The method of claim 1, wherein said plant has increased drought tolerance.
3. The method of claim 1, wherein said plant has increased salt tolerance.
4. The method of claim 1, wherein said plant has increased freezing tolerance.
5. The method of claim 1, wherein said aspartate carboxylase has the amino acid sequence of SEQ ID NO: 2.
6. The method of claim 1, wherein said aspartate carboxylase is encoded by a nucleic acid having the sequence of SEQ ID NO: 1.
7. The method of claim 1, wherein said aspartate carboxylase is encoded by a nucleic acid which has a sequence which is at least 70% identical to SEQ ID NO: 1.
8. The method of claim 1, wherein said aspartate carboxylase is encoded by a nucleic acid which has a sequence which is at least 90% identical to SEQ ID NO: 1.
9. The method of claim 1, wherein said aspartate carboxylase is encoded by a nucleic acid which hybridizes under stringent conditions to the complement of SEQ ID NO: 1, wherein said stringent conditions comprise washing in 5.times.SSC at a temperature of from 50 to 68.degree. C.
10. The method of claim 1, wherein the amino acid sequence of said aspartate carboxylase has a homology of at least 80% with SEQ ID NO: 2.
11. The method of claim 1, wherein the amino acid sequence of said aspartate carboxylase has a homology of at least 90% with SEQ ID NO: 2.
12. The method of claim 1, wherein the plant is selected from the group consisting of soybean, rice, tomato, wheat, corn, potato, cotton, oilseed rape, sunflower, alfalfa, clover, sugarcane, turf, banana, blackberry, blueberry, strawberry, raspberry, cantaloupe, carrot, cauliflower, coffee, cucumber, eggplant, grapes, honeydew, lettuce, mango, melon, onion, papaya, peas, peppers, pineapple,

pumpkin, spinach, squash, sweet corn, tobacco, watermelon, mint and other labiates, rosaceous fruits, and vegetable brassicas.

13. The method of claim 1, wherein the plant is selected from the group consisting of wheat, corn, peanut, cotton, oat, and soybean.

14. The method of claim 1, wherein the plant is transformed with a vector encoding the said aspartate carboxylase.

15. A plant transformed with a nucleic acid encoding an aspartate carboxylase.

16. The transformed plant of claim 15, having increased biomass.

17. The transformed plant of claim 15 having increased stress tolerance.

18. The transformed plant of claim 17, wherein the plants have increased drought tolerance.

19. The transformed plant of claim 17, wherein the plants have increased salt tolerance.

20. The transformed plant of claim 17, wherein the plants have increased freezing tolerance.

21. The transformed plant of claim 15, wherein said aspartate carboxylase has the amino acid sequence of SEQ ID NO: 2.

22. The transformed plant of claim 15, wherein said aspartate carboxylase is encoded by a nucleic acid having the sequence of SEQ ID NO: 1.

23. The transformed plant of claim 15, wherein said aspartate carboxylase is encoded by a nucleic acid which has a sequence which is at least 70% identical to SEQ ID NO: 1.

24. The transformed plant of claim 15, wherein said aspartate carboxylase is encoded by a nucleic acid which has a sequence which is at least 90% identical to SEQ ID NO: 1.

25. The transformed plant of claim 15, wherein said aspartate carboxylase is encoded by a nucleic acid which hybridizes under stringent conditions to the complement of SEQ ID NO: 1, wherein said stringent conditions comprise washing in 5.times.SSC at a temperature of from 50 to 68 C.

26. The transformed plant of claim 15, wherein the amino acid sequence of said aspartate carboxylase has a homology of at least 80% with SEQ ID NO: 2.
27. The transformed plant of claim 15, wherein the amino acid sequence of said aspartate carboxylase has a homology of at least 90% with SEQ ID NO: 2.
28. The transformed plant of claim 15, wherein the plant is selected from the group consisting of wheat, corn, peanut, cotton, oat, and soybean.
29. A plant cell, transformed with a nucleic acid encoding an aspartate carboxylase.
30. The transformed plant cell of claim 29, wherein said aspartate carboxylase has the amino acid sequence of SEQ ID NO: 2.
31. The transformed plant cell of claim 30 wherein said aspartate carboxylase is encoded by a nucleic acid having the sequence of SEQ ID NO: 1.
32. The transformed plant cell of claim 29, wherein said aspartate carboxylase is encoded by a nucleic acid which has a sequence which is at least 70% identical to SEQ ID NO: 1.
33. The transformed plant cell of claim 29, wherein said aspartate carboxylase is encoded by a nucleic acid which has a sequence which is at least 90% identical to SEQ ID NO: 1.
34. The transformed plant cell of claim 29, wherein said aspartate carboxylase is encoded by a nucleic acid which hybridizes under stringent conditions to the complement of SEQ ID NO: 1, wherein said stringent conditions comprise washing in 5.times.SSC at a temperature of from 50 to 68.degree. C.
35. The transformed plant cell of claim 29, wherein the amino acid sequence of said aspartate carboxylase has a homology of at least 80% with SEQ ID NO: 2.